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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,606	12/28/2001	David A. Wyatt	42390.P10981	2698

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EXAMINER	
BANANKHAH, MAJID A	

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/040,606	WYATT, DAVID A.	
	Examiner	Art Unit	
	Majid A. Banankhah	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment and Remarks

1. This non-final office action is in response to Applicant's amendment and response filed on October 10, 2005. New ground of rejection under 35 USC 112 first paragraphs, based on lack of written description is entered. It will be shown in the new ground of rejection that the disclosure does not clearly describe the key terms of "physical resource object", and "virtual resource object". Claims are also rejected under 35 USC 112 second paragraph as being incomplete for omitting essential structural cooperative relationships of elements. Applicant's amendments, and supporting arguments have been fully considered, but they are not deemed to be persuasive. Claims 1-32 are presented for examination.

Applicant on page 14 of his Remarks arguing that "The "data structure" and resource manager mentioned in Sankaranaryan differ from the instant application, as explained by the following. Sankaranaryan teaches a system wherein a configuration which resides within an individual "activity" or "task being performed" (see Sankaranaryan col. 9, lines 7-18) serves as the root of a tree: "in the tree metaphor, the configuration 124 can be thought of as a root of the descriptor tree." (See Sankaranaryan col. 10, lines 16-21).

It is unclear what applicant is arguing. This argument does not make clear if the system of Sankaranaryan different from the system of present invention and if it is different in what way. It is must be pointed out that from claims 1 and/or 17, the tree relationship is not clear and even it is, unclear whether it is from the root of the tree or otherwise.

Later applicant arguing: "In addition, Figure 17 presents a flow chart which illustrates an error handling method. The supporting disclosure for Figure 17 suggests that the resources be regarded as a tree structure only for the purpose error handling. (see Salakaranaryan, col. 26, lines 50-55). Salakaranaryan again teaches using the "configurations" within an "activity" as the root of this tree. (see Sankaranaryan col. 23, lines 11-16). Nothing in Sankaranaryan teaches a single tree data structure that relates the resource relationship of producers and consumers in order to manage those resources. Furthermore, Sankaranaryan teaches a processor wherein the resource manager is part of the kernel, at the lowest level of the operating system. (see Sankaranaryan Fig. 1, 30 and 40, and Sankaranaryan Fig. 2). Nothing in Sankaranaryan teaches a computer system where the resource manager is integrated into a multifunction chipset.

First it is unclear what claim in particular applicant is arguing about. Claim 1, and 17 does clearly define what type of relationship the tree structure provides. Secondly, arguing about resource manager being part of the kernel is not recited in any of the claims in the present application. Same is true for multifunction chipset, it is unclear what claim the argument is directed to because according to the amended claims in the amendment filed on October 31, 2005, no such limitation is recited in any of the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the specification, there is no clear and exact written description for "physical resource object", and "virtual resource object". Physical resources is described as functional units such as graphics controller rendering engines, digital video output units, digital display outputs, video capture ports, etc., and "virtual resource" as memory bandwidth. However, there is no teaching of "physical resource object". The term "Physical resource object" is mentioned in [0012], and [0046] however, applicant uses the language of claim 1 in Fig. 6 and related description of that Figure.

Additionally, claim 1, recites "creating a tree relationship for the parent and child objects to the physical and virtual resources objects", while in the specification there is not clear and exact written description for this relationship. On page 4, applicant teaches that "by examining the various parent-child relationships and their associated physical and virtual resources in the global resource namespace, the resource manager can determine how the various system resources are being consumed and balance the net available parent resources globally, as well as across the individual child consumers. Interfaces are provided whereby software drivers and driver components can gain access to the global resource namespace information through the resource manager". While "parent object" is defined as "resource producers" and "child object" is defined as "resource consumers", it is not clearly described as what is the relationship between

parent and child. In other words, in the specification by examining the various "parent and child relationship" and their physical and virtual resource, various system resource are balanced. In claim 1 however, the "tree relationship of the parent and child objects" to the physical and virtual resource objects are created. The language of the specification does not clearly describe this tree relationship of the parent and child objects. What is the relationship between the "parent and child object" to the "physical and virtual resource?

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. As to claim 1 and 17, the omitted structural cooperative relationships are: the tree relationship between "parent and child object" and "physical and virtual resource object".

Claims 2-13, and 18-29 are rejected for the rejection of claim1 and 17 respectively.

Claim 14, claims 14, and 30 recites "tracking relationships among resource producers and resource consumers". For the reasons stated in the rejection of claims under 112 first paragraph, this relationship is not clearly defined in the specification.

Claims 15-16, and 31-32 are rejected for the reasons stated in the rejection of claims 14 and 30 respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sankaranarayan et al. (US Pat. No. 6,799,208, hereafter Sankaran).

While claims are rejected under **35 USC 112, first and second paragraph** as stated above, in order to advance prosecution, claims will be treated on the merits in view of Examiner's best understanding of the specification and the prior art.

As to claims 1, 14, Sankaran teaches the invention as claimed including, a computer implemented method, comprising:

storing a list of physical resource objects (col. 8, lines 1-9);

storing a list of virtual resource objects (col.), lines 10-17);

storing a list of parent and child objects (Fig.2, 32 (1), ...32(A), and 104(1) ...104(p));

and;

creating a tree of relationships of the parent and child objects to the physical and virtual resource object (Fig. 17, 1700).

Sankaran, even though teaches of relating the tree structure of the resource to particular condition based on availability of the resource to notify the resource providers (See Fig. 17, and col. 9, lines 19-49) but does not clearly and explicitly explain the tree relationship for the parent and child objects (producer and consumer), and the physical and virtual resources (available and consumed resources). However, it is obvious for one ordinary skill in that art t the time the invention was made to make a data structure relating to who are the producers and consumers of the resources, and what amount of resources are available or in use at any time. For the reason to have a bookkeeping method and be able to utilize the resources efficiently. Therefore it would have been obvious for one ordinary skill in the art at the time the invention was made to related the resource tree structure of Sankaran to the producer and consumer of the resource as well as consumed and available amount of resource for increasing the utilization and eventually the efficiency of the resource management system of Sankaran.

Regarding the updating step of the records in claim 14, Sankaran teaches of the limitation in col. 29, lines 41-49.

As to claim 2, Sankaran teaches the invention as claimed including the method of claim 1, wherein storing a list of virtual resource objects includes storing an object representing system memory bandwidth (col. 4, lines 38-47).

As to claim 3, Sankaran teaches the invention as claimed including wherein storing a list of child objects includes storing an object representing a functional unit that consumes bandwidth (col. 4, line 65 to col. 5, line 7).

As to claim 4, Sankaran teaches the invention as claimed including, wherein storing an object representing a functional unit that consumes bandwidth includes storing an indication of the amount of bandwidth consumed (col. 4, line 65 to col. 5, line 7).

As to claim 5-8, Sankaran does not explicitly teach of consuming bandwidth that represents "an overlay unit", "cursor unit", "display output unit", and "local graphic

memory". However, it is well known in the art at the time the invention was made to use resource as a finite quantity of computing component in the computer system representing hardware such as "an overlay unit", "cursor unit", "display output unit", and "local graphic memory", as suggested by Sankaran in col. 4, lines 38-47.

As to claim 9, Sankaran teaches the invention as claimed including, wherein storing a list of child objects includes storing an object representing a functional unit that consumes bandwidth (col. 4, line 65 to col. 5, line 7).

As to claims 10-13, Sankaran does not explicitly teach of consuming bandwidth that represents "an overlay unit", "cursor unit", "display output unit", and "local graphic memory". However, it is well known in the art at the time the invention was made to use resource as a finite quantity of computing component in the computer system representing hardware such as "an overlay unit", "cursor unit", "display output unit", and "local graphic memory", as suggested by Sankaran in col. 4, lines 38-47.

As to claim 15-16, please see the rejection of claims 3, and 5-8.

As to claims 17-29, please see the rejection of claims 1-13 respectively.

As to claims 30-32, please see the rejection of claims 14-16 respectively.

Prior Art not relied upon

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

How to Contact the Examiner

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Majid Banankhah, whose telephone number is 571-272-3770. A voice mail service is also available at this number. The Examiner can normally be reached on Monday-Friday, except Tuesdays from 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-AI who can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

All responses sent by U.S. Mail should be mailed to:

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

PTO CENTRAL FAX NUMBER:
703-872-9306

- Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: (571) 272-2100.**

Majid Banankhah

2/14/06